

ABSTRACT OF THE DISCLOSURE

DEVICE FOR CONVERTING A PHOTOSIGNAL INTO A VOLTAGE IN
IMAGE SENSORS WITH REMOTE INTEGRATORS

The invention relates to an image sensor with matrix readout including a matrix of elementary photodetectors (P) connected through at least a bus (Bpel) to a remote integrator (I) which converts the signal of each elementary photodetector into a voltage, characterized in that it includes, between the end of the bus and the input of the integrator, an impedance matching device (D) with low output capacitance, delivering at its output, during the time for converting a photodetector signal, a variation of charge which corresponds to an affine function of the charge present at the input of said matching device, wherein this charge variation is determined by:

5 signal of each elementary photodetector into a voltage,
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matching device (D) with low output capacitance,
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10 converting a photodetector signal, a variation of
charge which corresponds to an affine function of the
charge present at the input of said matching device,
wherein this charge variation is determined by:

$$\int_{t=0}^{T_{conv}} I_{inj}(t).dt = \int_{t=0}^{T_{conv}} I_{int}(t).dt$$

15 where I_{inj} is the instantaneous current of the bus, injected at the input of the impedance matching device, I_{int} is the instantaneous current at the input of the integrator and T_{conv} is the conversion time.

20 Fig. 4.